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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/773,572

02/09/2004

Hyo Jae Lee

K-0608

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EXAMINER

LOPEZ, FRANK D

ART UNIT

PAPER NUMBER

3745

MAIL DATE

DELIVERY MODE

09/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/773,572

Applicant(s)

LEE, HYO JAE

Examiner

F. Daniel Lopez

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1,2,4,5 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1,2,4,5 and 7-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/30/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

Response to Amendment

Applicant's arguments filed July 11, 2007, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 1, 2, 4, 5 and 7-17 have been considered but are deemed to be moot in view of the new grounds of rejection. The new grounds of rejection are necessitated by the added limitations that the oil passage is between the inside surface of the one end of the connecting rod and the outside surface of the piston pin.

Applicant argues that Lindstrom does not disclose a clearance between the inside surface of the one end of the connecting rod and the outside surface of the piston pin, or an oil passage in the one end of the connecting rod. The examiner disagrees. The passage 62 extends all the way to the pin, thereby forming a clearance, and the passages 84 and 86 form the oil passages.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 4, 5 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Claim 1 last 4 lines claims "at least one oil passage formed between the inside surface of the one end of the connecting rod and the outside surface of the piston pin, wherein the...oil passage is configured to allow lubricating oil to escape from the clearance", wherein the clearance is claimed as being "provided between an inside surface of the one end of the connecting rod and an outside surface of the piston pin" (line 9-10). The specification discloses an oil passage formed in a variety of places, including as a groove in the piston adjacent the small end of the connecting rod (fig 4-5), a groove in the small end of the connecting rod adjacent the piston (fig 6) and through the small end of the connecting rod (fig 7),; but nowhere discloses that the oil passage is between the inside surface of the one end of the connecting rod and the outside surface of the piston pin. Furthermore, this location of the oil passage is contradicted by the limitation of claims 2, 4 and 5, which indicates that the oil passage is in the piston, which is not between the inside surface of the one end of the connecting rod and the outside surface of the piston pin

Claims 1, 2, 4, 5 and 7-17 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 line 8 and claim 11 line 7 "a piston pin arranged to pass through the compression chamber" is wrong. The compression chamber is defined to be a chamber within the cylinder where working fluid is drawn into and discharged (e.g. claim 1 line 2-4). The piston head is always between the piston pin and the compression chamber, and so never passes through the compression chamber. For the same reason, claim 1 and 11 last 2 lines "allow lubricating oil to escape from the clearance into the compression chamber" is wrong. Suggest that "compression chamber" be either deleted or replaced by --the cylinder--.

In claim 2 line 2-3 "oil passage comprises a hollow in a bottom end of the piston", and claim 4 line 2 and claim 5 line 2-3 "oil passage provided in a first (second) inside surface of the piston" are confusing, since it contradicts the location of the oil passage of claim 1 (see also above).

In claim 8 line 4 "the first inside surface" is confusing, since it has not been claimed previously.

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Double Patenting

Claim 13 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 9. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

Claims 1, 7-13 and 15-17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Lindstrom. Lindstrom discloses a compressor comprising a connecting rod (64) connected between a crank shaft (20) and a piston (34) for converting rotational movement of the crank shaft into reciprocating movement of the piston; a piston pin connecting one end of the connecting rod with the piston; a clearance (at end of 62) between an inside surface of the one end of the connecting rod and an outside surface of the piston pin; and an oil passage, which comprises first and second passages (84, 86) passing through the one end of the connecting rod, extends at an angle to the axis of the connecting rod and allows fluid to escape the clearance..

Claims 1, 2, 4, 5 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Stearns. Stearns discloses a fluid machine comprising a connecting rod (9) connected between a crank shaft and a piston (1) for converting rotational movement of the crank shaft into reciprocating movement of the piston; a piston pin (17) connecting one end of the connecting rod with the piston; a clearance (e.g. 13) between an inside surface of the one end of the connecting rod and an outside surface of the piston pin; and an oil passage which allows fluid to escape the clearance, which comprises first and second passages (26) in first and second inside surfaces, in a bottom end, of the piston, opposite each other. It is understood that a hollow is a broad term, including a hole.

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Claims 1, 7-9, 11, 13, 14, 16 and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Barraja-Frauenfelder et al. Barraja-Frauenfelder et al discloses a fluid machine comprising a connecting rod (3) connected between a crank shaft and a piston (5) for converting rotational movement of the crank shaft into reciprocating movement of the piston; a piston pin (54) connecting one end of the connecting rod with the piston; a clearance (e.g. 51) between an inside surface of the one end of the connecting rod and an outside surface of the piston pin; and an oil passage (between 51 and 38) which passes through the one end of the connecting rod, extends parallel to the axis of the connecting rod and allows fluid to escape the clearance..

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571- 272-4821. The examiner can normally be reached on Monday-Thursday from 6:10 AM -3:40 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is 571-273-8300. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.

/F. Daniel Lopez/

F. Daniel Lopez
Primary Examiner
Art Unit 3745
September 18, 2007